

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 9

IN THE MATTER OF:

MOTOROLA 52ND STREET SUPERFUND
SITE

Walker Power Systems, Inc.;
Union Pacific Railroad Company;
Tiernay Properties,
1301 East Jackson Street
Phoenix, Arizona

Respondents

ADMINISTRATIVE ORDER FOR
REMEDIAL INVESTIGATION AND
FEASIBILITY STUDY

U.S. EPA Region IX
CERCLA Docket No. 9-2007-10

Proceeding Under Section 106(a) of the
Comprehensive Environmental Response,
Compensation, and Liability Act, as
amended, 42 U.S.C. §9606(a)

I. INTRODUCTION AND JURISDICTION

1. This Order directs Walker Power Systems, Inc., Union Pacific Railroad Company, and Tiernay Properties (collectively, "Respondents") to conduct a Focused Remedial Investigation ("RI") and Feasibility Study ("FS") and reimburse all costs incurred by EPA in connection with the Focused RI/FS for the Walker Power Systems Site ("Site"), located within the third operable unit of the Motorola 52nd Street Superfund Site in Phoenix, Arizona. Pursuant to this Order, Respondents will conduct the Work described herein to investigate an imminent and substantial endangerment to human health or the environment that may be presented by the actual or threatened release of hazardous substances, pollutants, contaminants at or from the Site, and to provide an FS for potential response actions.

2. This Order is issued to Respondents by the United States Environmental Protection Agency, Region 9 ("EPA") pursuant to the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, ("CERCLA"), 42 U.S.C. §9606(a), and delegated to the EPA Administrator by Executive Order No. 12580, January 23, 1987, 52 *Fed. Reg.* 2923, as amended by Executive Order No. 13016, August 30, 1996, 61 *Fed. Reg.* 45,871, further delegated to the EPA Regional Administrators by EPA Delegation No. 14-B and further delegated to the Superfund Branch Chief by Regional Delegation 1290.14A, dated November 16, 2001.

3. In issuing this Order, EPA's objectives are to: (a) determine the nature and extent of contamination and threats to human health or the environment caused by certain releases or threatened releases of hazardous substances, pollutants, contaminants at or from the Site; and (b) to identify and evaluate remedial alternatives to prevent, mitigate or otherwise respond to or remedy certain releases or threatened releases of hazardous substances, pollutants, or contaminants at or from the Site, by conducting an FS in accordance with the National Contingency Plan, 40 C.F.R. Part 300 ("NCP").

4. The activities conducted under this Order are subject to approval by EPA, and Respondent shall provide all information for the RI and FS in a manner that is consistent with CERCLA and the NCP, 40 C.F.R. Part 300. The activities under this Order shall be conducted in compliance

with the attached Statement of Work ("SOW"), attached hereto as Attachment 1, and all applicable EPA guidance, policies, and procedures.

II. FINDINGS OF FACT

5. The Motorola 52nd Street Superfund Site is located in Phoenix, Arizona and was listed on the EPA Superfund National Priorities List on October 4, 1989, pursuant to Section 105 of CERCLA, 42 U.S.C. §9605. Releases of hazardous substances, primarily volatile organic compounds ("VOCs") such as trichloroethylene ("TCE"), tetrachloroethylene ("PCE"), and trichloroethane ("TCA"), from various facilities within the site boundaries have contributed to the groundwater contamination at the Motorola 52nd Street Site. The response activities are conducted in three operable unit study areas.

6. The Site is located at 1301 East Jackson Street, Phoenix, Arizona. The Site is located in the third operable unit study area of the Motorola 52nd Street Site.

7. Since 1975, manufacturing, repair, and overhaul of equipment, turbines, and motors has been conducted at the facility.

8. The groundwater within operable unit three is contaminated above the federal and state drinking water standards for VOCs including TCE, PCE, and VOC degradation by-products, cis-1,2-dichloroethylene and 1,1-dichloroethylene. TCA, as well as additional VOC degradation by-products such as 1,1-dichloroethane, 1,2-dichloroethane, trans-1,2-dichloroethylene, and vinyl chloride have also been detected.

9. The Walker Power Systems facility used VOCs, including PCE, TCE, and TCA, to clean parts and equipment. Prior to 1979, aluminum parts were cleaned in solvent dip tanks and large parts were wiped down with a solvent. This process was later replaced with a vapor degreaser. The property had 28 former dry wells and 6 sumps designed to contain hazardous waste liquids in the event of spills or leaks. Two dry wells were located within a hazardous waste storage area. In 1984, fluid and sludge samples from the dry wells contained maximum concentrations of 4,500 mg/kg TCA and 2,380 mg/kg TCE. Two borings located near the two dry wells yielded

concentrations of TCA up to 53 µg/L and TCE up to 65 µg/L in soil samples. Groundwater monitoring wells were installed on the property in 1988. Groundwater sampling detected maximum concentrations of 560 µg/L TCE, 160 µg/L TCA, 530 µg/L trans-1,2-DCE, 79 µg/L 1,1,-DCE, and 45 µg/L 1,1,-DCA, as compared to the respective federal Maximum Concentration Levels (MCLs) of 5 µg/L TCE, 5 µg/L TCA, 100 µg/L trans-1,2-DCE, 7 µg/L 1,1-DCE, and 5 µg/L 1,1-DCA. Additional soil gas and soil investigations were conducted near the drywells in 1994. Results showed levels of TCE, TCA, and PCE in the vadose zone near the drywells. Soils in the area where the dip tanks and vapor degreaser were located and near the other 26 dry wells and sumps have not yet been investigated and may be impacting groundwater beneath the Site.

10. Walker Power Systems, Inc. is an Arizona corporation doing business in Phoenix, Arizona. Walker Power has operated at the Site since March 1975.

11. Union Pacific Railroad Company is a Utah corporation doing business in Phoenix, Arizona. Union Pacific owned the western parcel of the property until 1998. Tiernay Properties, Inc. is an Arizona corporation doing business in Phoenix, Arizona. Tiernay Properties has owned the eastern and western parcels of the property since 1983 and 1998 respectively.

12. On February 12, 2007, Tiernay Properties submitted to EPA a Research Report detailing and summarizing results from past investigations of the facility and outlining suggested areas for further investigation.

13. The Administrative Record supporting this action is available for review at the EPA Region IX offices located at 75 Hawthorne Street, San Francisco, California, 94105.

III. CONCLUSIONS OF LAW AND DETERMINATIONS

14. The Site is a “facility” as defined in Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

15. Respondents are each a “person” as defined in Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

16. The contamination found at the Site, as set forth in Section II above (Findings of Fact), includes “hazardous substances” as defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

17. Respondent Walker Power operated the facility during a period of time when hazardous substances were disposed of and Respondents Union Pacific and Tiernay Properties owned the facility during a period of time when hazardous substances were disposed of. Therefore, Respondents are “liable” parties as defined in Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), and are subject to this Order under Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

18. The conditions at the Site, as described in Section II of this Order (Findings of Fact), constitute an actual or threatened “release,” as defined in Section 101(22) of CERCLA, 40 U.S.C. § 9601(22). The potential for future migration of hazardous substances from the Site poses a threat of a continued “release.”

19. The release or threat of release of one or more hazardous substances from the Site may present an imminent and substantial endangerment to the public health or welfare or the environment under Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

20. The actions required by this Order are necessary to protect the public health, welfare, and the environment and are consistent with the NCP and CERCLA.

IV. NOTICE TO THE STATE

21. On May 30, 2007, prior to issuance of this Order, EPA notified the Arizona Department of Environmental Quality (“ADEQ”) that EPA would be issuing this Order.

V. ORDER

22. Based on the foregoing, Respondents are hereby ordered to comply with the following provisions, including but not limited to, all attachments to this Order, all documents incorporated by reference into this Order, and all schedules and deadlines in this Order and its attachments.

VI. DEFINITIONS

23. Unless otherwise expressly provided herein, terms used in this Order which are defined in CERCLA or in regulations promulgated thereunder shall have the meaning assigned to them in the statute or the implementing regulations. Whenever terms listed below are used in this Order or in the documents attached to this Order or incorporated by reference into this Order, the following definitions shall apply:

“CERCLA” shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601 *et seq.*

“Day” shall mean a calendar day unless expressly stated to be a working day. “Working day” shall mean a day other than a Saturday, Sunday, or federal holiday. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the end of the next working day.

“Effective Date” shall mean the Effective Date of this Order as provided in Section XVI.

“Engineering Controls” shall mean constructed containment barriers or systems that control one or more of the following: downward migration, infiltration or seepage of surface runoff or rain, or natural leaching or migration of contaminants through the subsurface over time. Examples of “Engineering Controls” include caps, engineered bottom barriers, immobilization processes and vertical barriers.

“EPA” shall mean the United States Environmental Protection Agency, Region IX.

“Institutional Controls” shall mean non-engineered instruments, such as administrative or legal controls, that help to minimize the potential for human exposure to contamination and/or protect the integrity of a remedy by limiting land and/or resource use. Examples of institutional controls include easements and covenants, zoning restrictions, special building permit requirements, and well drilling prohibitions.

“Interest” shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually on October 1 of each year, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year.

“Motorola 52nd Street Superfund Site” shall mean Operable Units 1, 2, and 3 of the Motorola 52nd Street Superfund Site, located within the approximate boundaries of 52nd Street to the east, 7th Avenue to the west, McDowell Road to the north, and Buckeye Road to the south, and depicted generally on the map, attached as Attachment 2.

“National Contingency Plan” or “NCP” shall mean the National Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, including any amendments thereto.

“Operable Unit” shall mean the discrete areas or tasks within the Site as determined by similarities in the location or hazardous substances present, and as further defined in the SOW.

"Paragraph" shall mean a portion of this Order identified by an Arabic numeral.

"Response Costs" shall mean all costs, including direct costs, indirect costs, and accrued interest incurred by the United States to perform or support response actions at the Site. Response costs include but are not limited to the costs of overseeing the Work, such as the costs of reviewing or developing plans, reports, and other items pursuant to this Order, costs associated with verifying the Work, or costs incurred otherwise implementing, overseeing, or enforcing this Order, including but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to Paragraph 48 (emergency response), and Paragraph 78 (Work takeover).

“Section” shall mean a portion of this Order identified by a Roman numeral and includes

one or more Paragraphs, unless otherwise referenced. References to sections in the SOW will be so identified (i.e., "SOW Section V").

"Site" shall mean Walker Power Systems facility, located at 1301 East Jackson Street in Phoenix, Arizona, within the Motorola 52nd Street Superfund Site, and as generally depicted in Attachment 3.

"State" shall mean the state of Arizona.

"Statement of Work" or "SOW" shall mean the statement of work for development and implementation of the RI and FS for the Site, as set forth in Attachment 1 to this Order.

"United States" shall mean the United States of America.

"Waste Material" shall mean (1) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (2) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); and (3) any "solid waste" under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).

"Work" shall mean all activities that Respondents are required to perform under this Order, except those required in Paragraph 59 (Retention of Records).

VII. NOTICE OF INTENT TO COMPLY

24. Respondents shall provide, not later than June 29, 2007, or ten (10) days after the Effective Date of this Order, whichever is later, a written notice to EPA's Remedial Project Manager ("RPM") stating whether they will comply with the terms of this Order. If Respondents do not unequivocally commit to perform the Work as provided by this Order, they shall be deemed to have violated this Order and to have failed or refused to comply with this Order. Respondents' written notice shall describe, using facts that exist on or prior to the Effective Date of this Order, any "sufficient cause" defenses asserted by Respondents under Sections 106(b) and 107(c)(3) of CERCLA, 42 U.S.C. §§ 9606(b) and 9607(c)(3). The absence of a response by EPA to the notice

one or more Paragraphs, unless otherwise referenced. References to sections in the SOW will be so identified (i.e., "SOW Section V").

"Site" shall mean Walker Power Systems facility, located at 1301 East Jackson Street in Phoenix, Arizona, within the Motorola 52nd Street Superfund Site, and as generally depicted in Attachment 3.

"State" shall mean the state of Arizona.

"Statement of Work" or "SOW" shall mean the statement of work for development and implementation of the RI and FS for the Site, as set forth in Attachment 1 to this Order.

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"Work" shall mean all activities that Respondents are required to perform under this Order, except those required in Paragraph 59 (Retention of Records).

VII. NOTICE OF INTENT TO COMPLY

24. Respondents shall provide, not later than June 22, 2007, or ten (10) days after the Effective Date of this Order, whichever is later, a written notice to EPA's Remedial Project Manager ("RPM") stating whether they will comply with the terms of this Order. If Respondents do not unequivocally commit to perform the Work as provided by this Order, they shall be deemed to have violated this Order and to have failed or refused to comply with this Order. Respondents' written notice shall describe, using facts that exist on or prior to the Effective Date of this Order, any "sufficient cause" defenses asserted by Respondents under Sections 106(b) and 107(c)(3) of CERCLA, 42 U.S.C. §§ 9606(b) and 9607(c)(3). The absence of a response by EPA to the notice

required by this Paragraph shall not be deemed to be acceptance of Respondents' assertions.

VIII. PARTIES BOUND

25. This Order shall apply to and shall be binding on Respondents and on their directors, officers, employees, agents, successors, and assigns. No change in the ownership, corporate status, or other control of any of the entities referenced in this Paragraph shall alter any of the Respondents' responsibilities under this Order.

26. Respondents shall provide a copy of this Order to any prospective owners or successors before a controlling interest in Respondents' assets, property rights, or stock are transferred to the prospective owner or successor. Respondents shall provide a copy of this Order to each contractor, sub-contractor, laboratory, or consultant retained to perform any Work under this Order, within five (5) days after the Effective Date of this Order or on the date such services are retained, whichever date occurs later. Respondents shall also provide a copy of this Order to each person representing Respondents with respect to the Site or the Work and shall condition all contracts and subcontracts entered into hereunder upon performance of the Work in conformity with the terms of this Order. With regard to the activities undertaken pursuant to this Order, each contractor and subcontractor shall be deemed to be related by contract to Respondents within the meaning of Section 107(b)(3) of CERCLA, 42 U.S.C. § 9607(b)(3). Notwithstanding the terms of any contract, each Respondent is responsible for compliance with this Order and for ensuring that its contractors, subcontractors and agents comply with this Order and perform any Work in accordance with this Order.

IX. WORK TO BE PERFORMED

27. Respondents shall cooperate with EPA in providing information regarding the Work to the public. As requested by EPA, Respondents shall participate in the preparation of such information for distribution to the public and in public meetings that may be held or sponsored by EPA to explain activities at or relating to the Site.

28. Selection of Contractors, Personnel. All Work performed under this Order shall be under the direction and supervision of qualified personnel. Within thirty (30) days of the Effective Date

of this Order, and before the work outlined below begins, Respondents shall notify EPA in writing of the names, titles, and qualifications of the personnel, including contractors, subcontractors, consultants, and laboratories to be used in carrying out such work. With respect to any proposed contractor, Respondents shall demonstrate that the proposed contractor has a quality system which complies with ANSI/ASQC E4-1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995), by submitting a copy of the proposed contractor's Quality Management Plan (QMP). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B-01/002, March 2001) or equivalent documentation as determined by EPA. During the course of the RI/FS, Respondents shall notify EPA in writing prior to making any changes or additions in the personnel used to carry out such Work, providing their names, titles, and qualifications, and any changes or additions to the personnel will be subject to EPA's approval. If EPA disapproves in writing of any replacement's or addition's technical qualifications, Respondents shall notify EPA of the identity and qualifications of new proposed replacements or additions within thirty (30) days of the written notice. If EPA again disapproves of a replacement or addition, Respondents shall propose a new replacement or addition and the process shall continue until EPA approves a replacement.

29. Within ten (10) days after the Effective Date, Respondents shall designate a Project Coordinator who shall be responsible for administration of all actions by Respondents required by this Order and shall submit to EPA the designated Project Coordinator's name, address, telephone number, and qualifications. To the greatest extent possible, the Project Coordinator shall be present on-Site or readily available during Site Work. EPA retains the right to disapprove of the designated Project Coordinator. If EPA disapproves of the designated Project Coordinator, Respondents shall retain a different Project Coordinator and shall notify EPA of that person's name, address, telephone number and qualifications within fifteen (15) days following EPA's disapproval. Respondents shall have the right to change their Project Coordinator, subject to EPA's right to disapprove. Respondents shall notify EPA at least ten (10) days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notification. Receipt by Respondents' Project Coordinator of any notice or communication from EPA relating to this Order shall constitute receipt by Respondents.

30. EPA has designated John Lucey of the EPA Region IX Superfund Division as its RPM, and Janet Rosati as its alternate RPM if the designated RPM is unavailable. Except as otherwise provided in this Order, Respondents shall direct all submissions required by this Order to the RPM at:

John Lucey
Remedial Project Manager
Superfund Division (SFD-8-1)
US EPA, Region IX
75 Hawthorne Street
San Francisco, CA 94105
Lucey.John@epa.gov

and to:

Nicole Coronado
Arizona Department of Environmental Quality
1110 W. Washington St.
Phoenix, AZ 85007-2935
Coronado.Nicole@azdeq.gov

31. EPA's Project Coordinator shall have the authority lawfully vested in an RPM by the NCP. In addition, EPA's Project Coordinator shall have the authority consistent with the NCP, to halt any Work required by this Order, and to take any necessary response action when he or she determines that conditions at the Site may present an immediate endangerment to public health or welfare or the environment. The absence of the EPA Project Coordinator from the area under study pursuant to this Order shall not be cause for the stoppage or delay of Work.

32. EPA shall arrange for a qualified person to assist in its oversight and review of the conduct of the RI and FS, as required by Section 104(a) of CERCLA, 42 U.S.C. Section 9604(a). Such person shall have the authority to observe Work and make inquiries in the absence of EPA, but not to modify the RI/FS Work Plan.

33. Performance of RI and FS. Respondents shall conduct the RI and FS in accordance with the provisions of this Order, the SOW, CERCLA, the NCP, and EPA guidance, including, but not limited to the "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" (OSWER Directive # 9355.3-01, October 1988 or subsequently issued guidance), "Guidance for Data Useability in Risk Assessment" (OSWER Directive #9285.7-05, October 1990), and guidance referenced therein, and guidances referenced in the SOW, as may be amended or modified by EPA. All work performed under this Order shall be in accordance with

the schedules in the SOW, and in full accordance with the standards, specifications, and other requirements of the Focused RI/FS Work Plans, Health and Safety Plan, and Sampling and Analysis Plan, as initially approved or modified by EPA, and as may be amended by EPA from time to time. As specified in the SOW, the RI shall consist of collecting data to characterize Site conditions, determining the nature and extent of the contamination at or from the Site, assessing risk to human health and the environment, and conducting treatability testing as necessary to evaluate the potential performance and cost of the treatment technologies that are being considered. As specified in the SOW, the FS shall determine and evaluate (based on treatability testing, where appropriate) alternatives for remedial action to prevent, mitigate, or otherwise respond to or remedy the release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site. The alternatives evaluated must include, but shall not be limited to, the range of alternatives described in the NCP, and shall include remedial actions that utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. In evaluating the alternatives, Respondents shall address the factors required to be taken into account by Section 121 of CERCLA, 42 U.S.C. § 9621, and Section 300.430(e) of the NCP, 40 C.F.R. § 300.430(e). Upon request by EPA, Respondents shall submit in electronic form all portions of any plan, report, or other deliverable that Respondents are required to submit pursuant to provisions of this Order or the SOW.

34. RI/FS Work Plans. Within forty-five (45) days after the Effective Date of this Order, Respondents shall submit to EPA the initial work plan as indicated in the SOW. Respondents shall submit successive work plans in accordance with the schedule set forth in the SOW. On the approval of any respective work plan by EPA pursuant to Paragraphs 49-55 (EPA Approval of Plans and Other Submissions), the respective work plans shall be incorporated into and become enforceable under this Order, and the cumulation of approved work plans shall be known as the “RI/FS Work Plans.”

35. Sampling and Analysis Plan. Within forty-five (45) days after the Effective Date, Respondents shall submit a Sampling and Analysis Plan described in the SOW to EPA for review and approval pursuant to Paragraphs 49-55 (EPA Approval of Plans and Other Submissions). This plan shall consist of a Field Sampling Plan (“FSP”) and a Quality Assurance Project Plan (“QAPP”) to implement the SOW and shall adhere to EPA guidances, including, without limitation, “EPA Guidance for Quality Assurance Project Plans (QA/G-5)” (EPA/600/R-02/009, December 2002), and “EPA Requirements for Quality Assurance Project Plans (QA/R-5)” (EPA 240/B-01/003, March 2001). On its approval by EPA, the Sampling and Analysis Plan shall be incorporated into and become enforceable under this Order.

36. Site Health and Safety Plan. Within forty-five (45) days after the Effective Date of this Order, Respondents shall submit for EPA review and comment a Site Health and Safety Plan that ensures the protection of on-site workers and the public during performance of on-site Work under this Order. This plan shall be prepared in accordance with EPA's Standard Operating Safety Guide (PUB 9285.1-03, PB 92-963414, June 1992). In addition, the plan shall comply with all currently applicable Occupational Safety and Health Administration ("OSHA") regulations found at 29 C.F.R. Part 1910. The Health and Safety Plan also shall include contingency planning for on-site emergencies. Respondents shall incorporate all changes to the plan recommended by EPA and shall implement the plan during the pendency of the RI/FS.

37. Site Characterization. Respondents shall implement the provisions of the RI/FS Work Plans and Sampling and Analysis Plan, to characterize the Site. Respondents shall complete Site characterization and submit all plans, reports and other deliverables in accordance with the schedules and deadlines established in this Order, the SOW, or as otherwise may be provided in the approved RI/FS Work Plans and Sampling and Analysis Plan.

38. Focused Baseline Human Health Risk Assessment. Respondents will perform the Focused Baseline Risk Assessment in accordance with the SOW, Focused RI/FS Work Plan, and applicable EPA guidance, including but not limited to: "Interim Final Risk Assessment Guidance for Superfund, Volume I - Human Health Evaluation Manual (Part A)," (RAGS, EPA-540-1-89-002, OSWER Directive 9285.7-01A, December 1989); "Interim Final Risk Assessment Guidance for Superfund, Volume I - Human Health Evaluation Manual (Part D, Standardized Planning, Reporting, and Review of Superfund Risk Assessments)," (RAGS, EPA 540-R-97-033, OSWER Directive 9285.7-01D, January 1998); "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments" (ERAGS, EPA-540-R-97-006, OSWER Directive 9285.7-25, June 1997). The major components of the Focused Baseline Risk Assessment include contaminant identification, exposure assessment, toxicity assessment, and human health and ecological risk characterization.

39. Draft RI Report. Within sixty (60) days after notification to EPA of completion of field investigation activities, Respondents shall submit to EPA for review and approval pursuant to Paragraphs 49-55 (EPA Approval of Plans and Other Submissions), a Draft RI Report consistent with the SOW, RI/FS Work Plans, and the Sampling and Analysis Plan. The Draft RI Report shall also contain the Risk Assessments.

40. Treatability Studies. Respondents shall conduct treatability studies, except where Respondents can demonstrate to EPA's satisfaction that they are not needed.
41. Development and Screening of Alternatives. Respondents shall develop an appropriate range of waste management options that will be evaluated through the development and screening of alternatives.
42. Draft FS Report, Presentation, and Deliverables. Within sixty (60) days of EPA approval of the Final RI Report, Respondents shall conduct a detailed analysis of remedial alternatives in an FS Report. Respondents shall refer to Table 6-5 of the RI/FS Guidance for report content and format. The Draft FS report, as amended, and the administrative record, shall provide the basis for the proposed plan under Sections 113(k) and 117(a) of CERCLA, 42 U.S.C. §§ 9613(k) and 9617(a), and shall document the development and analysis of remedial alternatives. In accordance with the deadlines or schedules established in this Order, the SOW, or the EPA-approved RI/FS Work Plans, Respondents shall provide EPA with a Report that includes:
- (a) a summary of the findings of the RI and the remedial action objectives,
 - (b) a comparative analysis,
 - (c) a presentation of the results of the nine criteria evaluation as outlined in the NCP (40 C.F.R. 300.430(e)(9)(iii)), and
 - (d) an alternatives analysis for institutional controls. The Alternatives Analysis for Institutional Controls shall: (1) state the objectives (i.e., what will be accomplished) for the Institutional Controls; (2) determine the specific types of Institutional Controls that can be used to meet the remedial action objectives; (3) investigate when the Institutional Controls need to be implemented or secured and how long they must be in place; and (4) research, discuss, and document any agreement with the proper entities (e.g., state, local government entities, local landowners, conservation organizations, Respondents) on exactly who will be responsible for securing, maintaining, and enforcing the Institutional Controls. The Alternatives Analysis for Institutional Controls shall also evaluate the Institutional Controls against the nine evaluation criteria, including but not limited to costs to implement, monitor, or enforce the Institutional Controls.

The Draft FS Report shall be submitted for review and approval pursuant to Paragraphs 49-55 (EPA Approval of Plans and Other Submissions).

43. On receipt of the Draft FS report, EPA will evaluate, as necessary, the estimates of the risk to the public and environment that are expected to remain after a particular remedial alternative has been completed and will evaluate the durability, reliability, and effectiveness of any proposed Institutional Controls. Respondents shall incorporate EPA's evaluation and analysis into the final Focused FS report that is submitted to EPA for review and approval.

44. Modification of the RI/FS Work Plans.

a. If at any time during the RI or FS process Respondents identify a need for additional data, Respondents shall submit a memorandum documenting the need for additional data to the EPA Project Coordinator within sixty (60) days of identification. EPA in its discretion will determine whether the additional data will be collected by Respondents and whether it will be incorporated into any respective plans, reports, and other deliverables.

b. In the event of unanticipated or changed circumstances at the Site, Respondents shall notify the EPA Project Coordinator by telephone within twenty-four (24) hours of discovery of the unanticipated or changed circumstances. In the event that EPA determines that the immediate threat or the unanticipated or changed circumstances warrant changes in the RI/FS Work Plans, EPA may modify or amend the RI/FS Work Plans in writing accordingly, or may require Respondents to modify the RI/FS Work Plans subject to EPA's approval in accordance with Paragraphs 49-55 (EPA Approval of Plans and Other Submissions). Respondents shall perform the modified or amended RI/FS Work Plans as provided or approved by EPA.

c. EPA may determine that in addition to tasks defined in any of the initially approved RI/FS Work Plans, other additional Work may be necessary to accomplish the objectives of this Order. Respondents shall perform these response actions in addition to those required any of the initially approved RI/FS Work Plans, including any approved modifications, if EPA determines that such actions are necessary to meet the purpose of this Order.

d. Respondents shall confirm their willingness to perform the additional Work in writing to EPA within fourteen (14) days of receipt of any EPA request.

e. Respondents shall complete the additional Work according to the standards, specifications, and schedule set forth or approved by EPA in a written modification to the RI/FS

Work Plans or any written supplement. EPA reserves the right to conduct the Work itself at any point, to seek reimbursement from Respondents, or to seek any other appropriate relief.

f. Nothing in this Paragraph shall be construed to limit EPA's authority to require performance of further response actions at the Site.

45. Off-Site Shipment of Waste Material. Respondents shall, prior to any off-Site shipment of hazardous substances from the Site to an out-of-state waste management facility, provide written notification of such shipment of hazardous substances to the appropriate state environmental official in the receiving facility's state and to EPA's RPM. However, this notification requirement shall not apply to any off-Site shipments when the total volume of all such shipments will not exceed 10 cubic yards.

a. Respondents shall include in the written notification the following information: (1) the name and location of the facility to which the hazardous substances are to be shipped; (2) the type and quantity of the hazardous substances to be shipped; (3) the expected schedule for the shipment of the hazardous substances; and (4) the method of transportation. Respondents shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the hazardous substances to another facility within the same state, or to a facility in another state.

b. Respondents shall provide the information required by this Paragraph to its respective contractors as soon as practicable after the award of the contract and before the hazardous substances are actually shipped.

c. Before shipping any hazardous substances, pollutants, or contaminants from the Site to an off-Site location, Respondents shall obtain EPA's certification that the proposed receiving facility is operating in compliance with the requirements of CERCLA Section 121(d)(3), 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondents shall send hazardous substances, pollutants, or contaminants from the Site only to an off-Site facility that complies with the requirements of the statutory provision and regulation cited in the preceding sentence.

46. Meetings. Respondents shall make presentations at, and participate in, meetings at the request of EPA during the initiation, conduct, and completion of the RI and FS. In addition to discussion of the technical aspects of the RI and FS, topics will include anticipated problems or new issues. Meetings will be scheduled at EPA's discretion.

47. Progress Reports. In addition to the plans, reports, and other deliverables set forth in this Order, Respondents shall provide to EPA monthly progress reports by the last day of each month. During the period after Respondents provide Notification of Initiation of Fieldwork as required by SOW Section 4.1, and continuing until Respondents provide Notification of Completion of Fieldwork as required by SOW Section 4.1., Respondents shall provide to EPA weekly progress reports on the Friday of each week. At a minimum, with respect to the preceding month or week, these progress reports shall: (1) describe the actions that have been taken to comply with this Order during that month or week; (2) include all results of sampling and tests and all other data received by Respondents; (3) describe Work planned for the next two months or two weeks with schedules relating such Work to the overall project schedule for RI and FS completion; and (4) describe all problems encountered and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays. Respondents may submit monthly and weekly progress reports electronically and may combine the monthly report with the last weekly submitted during a month.

48. Emergency Response and Notification of Releases.

a. In the event of any action or occurrence during performance of the Work that causes or threatens a release of Waste Material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Respondents shall immediately take all appropriate action. Respondents shall take these actions in accordance with all applicable provisions of this Order, including, but not limited to, the Health and Safety Plan, in order to prevent, abate or minimize such release or endangerment caused or threatened by the release. Respondents also shall immediately notify the EPA RPM, or in the event of his unavailability, the Regional Duty Officer at (888) 254-3130 or (415) 947-4400, of the incident or Site conditions. In the event of any release of a hazardous substance from the Site, Respondents shall also immediately notify the Regional Duty Officer at (888) 254-3130 or (415) 947-4400, and the National Response Center at (800) 424-8802. In the event that Respondents fail to take appropriate response action as required by this Paragraph, and EPA takes such action instead, Respondents shall reimburse EPA all costs of the response action not inconsistent with the NCP.

b. Respondents shall submit a written report to EPA within seven (7) days after each such release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, and not in lieu of, any reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004, *et seq.*

49. EPA Approval of Plans and Other Submissions. After review of any plan, report or other item that is required to be submitted for approval pursuant to this Order, in a notice to Respondents EPA shall: (a) approve, in whole or in part, the submission; (b) approve the submission subject to specified conditions; (c) modify the submission to cure the deficiencies; (d) disapprove, in whole or in part, the submission, and direct that Respondent modify the submission; or (e) any combination of the above. However, EPA shall not modify a submission without first providing Respondents at least one notice of deficiency and an opportunity to cure within fifteen (15) days, except where to do so would cause serious disruption to the Work or where previous submission(s) have been disapproved due to material defects.

50. On approval, approval subject to conditions, or modification by EPA, pursuant to Paragraph 49, Respondents shall proceed to implement any action required by the plan, report or other deliverable, as approved or modified by EPA. Following EPA approval or modification of a submission or portion thereof, Respondents shall not thereafter alter or amend such submission or portion thereof unless directed by EPA.

51. On receipt of a notice of disapproval, Respondents shall, within fifteen (15) days or such longer time as specified by EPA in such notice, correct the deficiencies and resubmit the plan, report, or other deliverable for approval. Notwithstanding the receipt of a notice of disapproval, Respondents shall proceed to take any action required by any non-deficient portion of the submission, unless otherwise directed by EPA. Respondents shall not proceed with any activities or tasks until receiving EPA approval, approval on condition, or modification. While awaiting EPA approval, approval on condition or modification of deliverables, Respondents shall proceed

with all other tasks and activities that may be conducted independently in accordance with the schedule set forth under this Order. Respondents shall continue implementation of any activities or tasks regarding the Site that EPA approved prior to issuing this Order; however, EPA reserves the right to stop Respondents from proceeding, either temporarily or permanently, on any task, activity or deliverable at any point during the RI or FS.

52. If EPA disapproves a resubmitted plan, report, or other deliverable, or portion thereof, EPA may again direct Respondents to correct the deficiencies. EPA also shall retain the right to modify or develop the plan, report, or other deliverable, and Respondents shall implement any such plan, report, or deliverable as ultimately corrected, modified or developed by EPA.

53. In the event that EPA takes over some of the tasks, but not the preparation of the RI Report or the FS Report, Respondents shall incorporate and integrate information supplied by EPA into the final reports.

54. All plans, reports, and other deliverables submitted to EPA under this Order shall, on approval or modification by EPA, be incorporated into and enforceable under this Order. In the event EPA approves or modifies a portion of a plan, report, or other deliverable submitted to EPA under this Order, the approved or modified portion shall be incorporated into and enforceable under this Order.

55. Neither failure of EPA to expressly approve or disapprove of Respondents' submissions within a specified time period, nor the absence of comments, shall be construed as approval by EPA. Regardless of whether EPA gives express approval for Respondents' deliverables, Respondents are responsible for preparing deliverables acceptable to EPA.

56. Quality Assurance, Sampling, and Access to Information.

a. Quality Assurance. Respondents shall assure that Work performed, samples taken, and analyses conducted conform to the requirements of the SOW, the QAPP, and guidances identified therein. Respondents will assure that field personnel used by Respondents are properly trained in the use of field equipment and in chain of custody procedures. Respondents shall only

use laboratories that have a documented quality system that complies with “EPA Requirements for Quality Management Plans (QA/R-2)” (EPA/240/B-01/002, March 2001) or equivalent documentation as determined by EPA.

b. Sampling. All results of sampling, tests, modeling or other data (including raw data) generated by Respondents, or on Respondents’ behalf, during the period that this Order is effective, shall be submitted to EPA in the next monthly progress report as described in Paragraph 47 of this Order. EPA will make available to Respondents validated data generated by EPA unless it is exempt from disclosure by any federal or state law or regulation. Respondents shall verbally notify EPA at least fifteen (15) days prior to conducting significant field events as described in the SOW, RI/FS Work Plans, or Sampling and Analysis Plan. At EPA's verbal or written request, or the request of EPA's oversight assistant, Respondents shall allow split or duplicate samples to be taken by EPA (and its authorized representatives) of any samples collected in implementing this Order. All split samples shall be analyzed by the methods identified in the QAPP.

c. Access to Information. EPA is responsible for the release to the public of documents or reports through any phase of the RI or FS. EPA will determine the contents of the administrative record file for selection of any response action. Respondents shall provide to EPA, on request, copies of all documents and information within their possession or control or that of their contractors or agents relating to activities at the Site or to the implementation of this Order, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Respondents also shall make available to EPA, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

d. Respondents may assert business confidentiality claims covering part or all of the documents or information submitted to EPA under this Order to the extent permitted by and in accordance with Section 104 of CERCLA, 42 U.S.C. § 9604, and 40 C.F.R. § 2.203(b).

Documents or information determined to be confidential by EPA will be afforded the protection

specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when they are submitted to EPA, or if EPA has notified Respondents that the documents or information are not confidential under the standards of Section 104 of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such documents or information without further notice to Respondents. Respondents shall segregate and clearly identify all documents or information submitted under this Order for which a Respondent asserts a business confidentiality claim. A Respondent may assert that certain documents, records, and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If a Respondent asserts such a privilege in lieu of providing documents, it shall provide EPA with the following: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the contents of the document, record, or information; and 6) the privilege asserted. However, no documents, reports, or other information created or generated pursuant to the requirements of this Order shall be withheld on the grounds that they are privileged. No claim of confidentiality or privilege shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data.

e. Documents Supporting EPA Selection of Remedy. Respondents must submit to EPA documents developed during the course of the RI or FS upon which selection of a response action may be based. Respondents shall provide copies of plans, task memoranda for further action, quality assurance memoranda and audits, raw data, field notes, laboratory analytical reports, and other reports. Respondents must additionally submit any previous studies conducted under state, local, or other federal authorities relating to selection of the response action, and all communications between Respondents and state, local, or other federal authorities concerning selection of the response action.

57. Site Access. If the Site, or any other property where access is needed to implement this Order, is owned or controlled by any of the Respondents, Respondents shall, commencing on the Effective Date, provide EPA and its representatives, including contractors, with access at all reasonable times to the Site, or such other property, for the purpose of conducting any activity

related to this Order, including: (a) inspecting conditions, activities, the results of activities, records, operating logs, and contracts related to the Work or Respondents and their representatives or contractors pursuant to this Order; (b) reviewing the progress of Respondents in carrying out the terms of this Order; (c) conducting tests as EPA or its authorized representatives or contractors deem necessary; (d) using a camera, sound recording device or other documentary type equipment; and (e) verifying the data submitted to EPA by Respondents. Where any action under this Order is to be performed in areas owned by or in possession of someone other than Respondents, Respondents shall use their best efforts to obtain all necessary access agreements. Respondents shall immediately notify EPA if, after using best efforts, they are unable to obtain such agreements. For purposes of this Paragraph, "best efforts" includes the payment of reasonable sums of money in consideration of access. Respondents shall describe in writing their efforts to obtain access. If Respondents cannot obtain access agreements, EPA may either: (a) obtain access for Respondents or assist Respondents in gaining access to the extent necessary to effectuate the response actions described herein, using such means as EPA deems appropriate; or (b) perform those tasks or activities with EPA contractors. Except as provided above in this Paragraph, Respondents shall reimburse EPA for all costs and attorney's fees incurred by the United States in obtaining such access. If EPA performs those tasks or activities with EPA contractors, Respondents shall perform all other tasks or activities not requiring access to that property, and shall reimburse EPA for all costs incurred in performing such tasks or activities. Respondents shall integrate the results of any such tasks or activities undertaken by EPA into their plans, reports and other deliverables. Notwithstanding any provision of this Order, EPA retains all of its access authorities and rights, including enforcement authorities related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

58. Compliance with Other Laws and the NCP. Respondents shall comply with all applicable local, state, and federal laws and regulations when performing the RI and FS. EPA has determined that the activities contemplated by this Order are consistent with the NCP. No local, state, or federal permit shall be required for any portion of any action conducted entirely on-Site, including studies, if the action is selected and carried out in compliance with Section 121 of CERCLA, 42 U.S.C. § 9621. Where any portion of the Work is to be conducted off-Site and requires a federal or state permit or approval, Respondents shall submit timely and complete

applications and take all other actions necessary to obtain and to comply with all such permits or approvals. This Order is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

59. Retention of Records. During the pendency of this Order and for a minimum of ten (10) years after commencement of construction of any remedial action, Respondents shall preserve and retain all non-identical copies of documents, records, and other information (including documents, records, or other information in electronic form) now in their possession or control or that come into their possession or control that relate in any manner to the performance of the Work or the liability of any person under CERCLA with respect to the Site, regardless of any corporate retention policy to the contrary. Until ten (10) years after commencement of construction of any remedial action, Respondents also shall instruct their contractors and agents to preserve all documents, records, and other information of whatever kind, nature or description relating to performance of the Work. At the conclusion of this document retention period, Respondents shall notify EPA at least ninety (90) days prior to the destruction of any such documents, records, or other information, and, on request by EPA, Respondents shall deliver any such documents, records, or other information to EPA, at no cost to EPA. Respondents may assert that certain documents, records, and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Respondents assert such a privilege, they shall provide EPA with the following: 1) the title of the document, record, or other information; 2) the date of the document, record, or other information; 3) the name and title of the author of the document, record, or other information; 4) the name and title of each addressee and recipient; 5) a description of the subject of the document, record, or other information; and 6) the privilege asserted by Respondents. However, no documents, records, or other information created or generated pursuant to the requirements of this Order shall be withheld on the grounds that they are privileged.

X. DELAY IN PERFORMANCE

60. Any delay in performance of this Order that, in EPA's discretion, is not properly justified by Respondents under the terms of this Section shall be considered a violation of this Order. Any delay in performance of this Order shall not affect Respondents' obligations to fully perform all

obligations under the terms and conditions of this Order.

61. Respondents shall notify EPA of any delay or anticipated delay in performing any requirement of this Order. Such notification shall be made by telephone to EPA's RPM within forty-eight (48) hours after Respondents first knew or should have known that a delay might occur. Respondents shall adopt all reasonable measures to avoid or minimize any such delay. Within five (5) business days after notifying EPA by telephone, Respondents shall provide written notification fully describing the nature of the delay, any justification for delay, any reason why Respondents should not be held strictly accountable for failing to comply with any relevant requirements of this Order, the measures planned and taken to minimize the delay, and a schedule for implementing the measures that will be taken to mitigate the effect of the delay. EPA may, in its sole and unreviewable discretion, grant an extension of any schedule for good cause shown. Increased costs or expenses associated with implementation of the activities called for in this Order are not a justification for any delay in performance.

XI. ASSURANCE OF ABILITY TO COMPLETE WORK

62. Within thirty (30) days of EPA's approval of the Focused RI/FS Workplan, Respondents shall establish and maintain financial security in the amount of the current cost estimate for the Work as identified in the Focused RI/FS Workplan (section 3.3.1 of the SOW) for the benefit of EPA in one or more of the following forms, in order to secure the full and final completion of Work by Respondents:

- a. a surety bond unconditionally guaranteeing payment and/or performance of the Work;
- b. one or more irrevocable letters of credit, payable to or at the direction of EPA, issued by financial institution(s) acceptable in all respects to EPA equaling the total estimated cost of the Work;
- c. a trust fund administered by a trustee acceptable in all respects to EPA;
- d. a policy of insurance issued by an insurance carrier acceptable in all respects to EPA, which ensures the payment or performance of the Work;

- e. a corporate guarantee to perform the Work provided by one or more parent or affiliated corporations or subsidiaries of Respondents, including a demonstration that any such company satisfies the financial test requirements of 40 C.F.R. Part 264.143(f); or
- f. a corporate guarantee to perform the Work by Respondents, including a demonstration that it satisfies the requirements of 40 C.F.R. Part 264.143(f).

63. Any and all financial assurance instruments provided pursuant to this Section shall be in form and substance satisfactory to EPA, determined in EPA's sole discretion. In the event that EPA determines at any time that the financial assurances provided pursuant to this Section (including, without limitation, the instrument(s) evidencing such assurances) are inadequate, Respondents shall, within thirty (30) days of receipt of notice of EPA's determination, obtain and present to EPA for approval one of the other forms of financial assurance listed in Paragraph 62, above. In addition, if at any time EPA notifies Respondents that the anticipated cost of completing the Work has increased, then, within thirty (30) days of such notification, Respondents shall obtain and present to EPA for approval a revised form of financial assurance (otherwise acceptable under this Section) that reflects such cost increase. Respondents' inability to demonstrate financial ability to complete the Work shall in no way excuse performance of any activities required under this Order.

64. If Respondents seek to ensure completion of the Work through a guarantee pursuant to Paragraph 62(e) or 62(f) of this Order, Respondents shall: (i) demonstrate to EPA's satisfaction that the guarantor satisfies the requirements of 40 C.F.R. Part 264.143(f); and (ii) resubmit sworn statements conveying the information required by 40 C.F.R. Part 264.143(f) annually, on the anniversary of the Effective Date, to EPA. For the purposes of this Order, wherever 40 C.F.R. Part 264.143(f) references "sum of current closure and post-closure costs estimates and the current plugging and abandonment costs estimates," the current cost estimate for the Work as identified in the Focused RI/FS Workplan (section 3.3.1 of the SOW) shall be used in relevant financial test calculations.

65. If, after the Effective Date, Respondents can show that the estimated cost to complete the remaining Work has diminished below the amount set forth in Paragraph 64, Respondents may, on any anniversary date of the Effective Date, or at any other time agreed to by the Parties, reduce the amount of the financial security provided under this Section to the estimated cost of the remaining Work to be performed. Respondents shall submit a proposal for such reduction to EPA, in accordance with the requirements of this Section, and may reduce the amount of the security after receiving written approval from EPA.

66. Respondents may change the form of financial assurance provided under this Section at any time, on notice to and subject to prior written approval by EPA, provided that EPA determines that the new form of assurance meets the requirements of this Section.

XII. INSURANCE

67. At least five (5) days prior to commencing any on-Site Work under this Order, Respondents shall secure, and shall maintain for the duration of this Order, comprehensive general liability insurance and automobile insurance with limits of \$1,000,000 dollars, combined single limit, naming the EPA as an additional insured. Within the same period, Respondents shall provide EPA with certificates of such insurance and a copy of each insurance policy. Respondents shall submit such certificates and copies of policies each year on the anniversary of the Effective Date. In addition, for the duration of the Order, Respondents shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of workers' compensation insurance for all persons performing the Work on behalf of Respondents in furtherance of this Order. If Respondents demonstrate by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in an equal or lesser amount, then Respondents need provide only that portion of the insurance described above that is not maintained by such contractor or subcontractor.

XIII. REIMBURSEMENT OF RESPONSE COSTS

68. Respondents shall reimburse EPA, on written demand, for all response costs incurred by the United States in overseeing Respondents' implementation of the requirements of this Order or

in performing any response action which Respondents fail to perform in compliance with this Order. Response costs are all costs including, but not limited to, direct and indirect costs and interest, that EPA incurs in overseeing Respondents' implementation of the requirements of this Order, including development of this Order, reviewing or developing plans, reports and other items pursuant to this Order, verifying the Work, or otherwise implementing, overseeing, or enforcing this Order or in performing any response action which Respondents fail to perform in compliance with this Order.

69. On a periodic basis, EPA may submit to Respondents bills for response costs that include an itemized Cost Summary.

70. Respondents shall, within thirty (30) days of receipt of each bill, remit a certified or cashier's check for the amount of those costs. Interest shall accrue from the later of the date that payment of a specified amount is demanded in writing or the date of the expenditure. The interest rate is the rate established by the Department of the Treasury pursuant to 31 U.S.C. § 3717 and 4 C.F.R. § 102.13.

71. Respondents shall make payments payable to "EPA Hazardous Substance Superfund" and mail payments to:

U.S. EPA - Region 9
ATTN: Superfund Accounting
P.O. Box 371099M
Pittsburgh, PA 15251

The payment to EPA may instead be made by Electronic Funds Transfer ("EFT" or "wire transfer") in accordance with instructions provided to the Respondents in the first bill for response costs. Any EFT received after 11:00 A.M. (Eastern Time) will be credited on the next business day. Respondents shall send written notice of the EFT to the RPM. All payments to the United States under this Paragraph shall reference the name and address of the party making payment, the Motorola 52nd Street Site, Site # 09BE and EPA Docket #2007-10.

72. Respondents shall simultaneously transmit a copy of any check to EPA's RPM.

73. The total amount to be paid by Respondents pursuant to this Section shall be deposited in the Motorola 52nd Street Superfund Site Special Account within the EPA Hazardous Substance Superfund to be retained and used to conduct or finance response actions at or in connection with the Motorola 52nd Street Superfund Site, or to be transferred by EPA to the EPA Hazardous Substance Superfund

74. In the event that the payments for response costs are not made as required above, Respondents shall pay interest on the unpaid balance. Interest is established at the rate specified in Section 107(a) of CERCLA. Interest shall begin to accrue on the date of the bill and accrue at the rate specified through the date of the payment. Payments of interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondents' failure to make timely payments under this Section.

XIV. UNITED STATES NOT LIABLE

75. The United States, by issuance of this Order, assumes no liability for any injuries or damages to persons or property resulting from acts or omissions by Respondents, or their directors, officers, employees, agents, representatives, successors, assigns, contractors, or consultants in carrying out any action or activity pursuant to this Order. Neither EPA nor the United States may be deemed to be a party to any contract entered into by Respondents or their directors, officers, employees, agents, successors, assigns, contractors, or consultants in carrying out any action or activity pursuant to this Order.

76. In any agreement that Respondents enter into with third parties to undertake the terms of this Order, including any access agreements, Respondents shall save and hold harmless the United States and its officials, agents, employees, contractors, subcontractors, or representatives for or from any and all claims or causes of action or other costs incurred by the United States, including but not limited to attorneys fees and other expenses of litigation and settlement, arising from or on account of acts or omissions of Respondents, their officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Order.

XV. ENFORCEMENT AND RESERVATIONS

77. EPA reserves the right to bring an action against Respondents under Section 107 of CERCLA, 42 U.S.C. § 9607, for recovery of any response costs incurred by the United States and not reimbursed by Respondents. This reservation shall include, but not be limited to, past costs, direct costs, indirect costs, the costs of oversight, and the costs of compiling the cost documentation to support oversight cost demand, as well as accrued interest as provided in Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

78. Notwithstanding any other provision of this Order, at any time during the response action, EPA may perform its own studies, complete the response action, or any portion thereof, as provided in CERCLA and the NCP, and seek reimbursement from Respondents for its costs, or seek any other appropriate relief.

79. Nothing in this Order shall preclude EPA from taking any additional enforcement actions, including modification of this Order or issuance of additional orders, and remedial or removal actions as EPA may deem necessary, or from requiring Respondents in the future to perform additional activities pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a), *et seq.*, or any other applicable law. Respondents shall be liable under CERCLA Section 107(a), 42 U.S.C. § 9607(a), for the costs of any such additional actions.

80. Notwithstanding any provision of this Order, the United States hereby retains all of its information gathering, inspection and enforcement authorities and rights under CERCLA, RCRA, and any other applicable statutes or regulations.

81. Respondents shall be subject to civil penalties under Section 106(b) of CERCLA, 42 U.S.C. § 9606(b), of not more than \$32,500 for each day that Respondents willfully violate, or fail or refuse to comply with this Order without sufficient cause. In addition, failure to properly provide response actions under this Order, or any portion hereof, without sufficient cause, may result in liability under Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3), for punitive damages in an amount at least equal to, and not more than three times, the amount of any costs

incurred by the Fund as a result of such failure to take proper action.

82. Nothing in this Order shall constitute or be construed as a release from any claim, cause of action or demand in law or equity against any person for any liability it may have arising out of or relating in any way to the Site.

83. If a court issues an order that invalidates any provision of this Order or finds that Respondents have sufficient cause not to comply with one or more provisions of this Order, Respondents shall remain bound to comply with all provisions of this Order not invalidated by the court's order.

XVI. EFFECTIVE DATE AND COMPUTATION OF TIME

84. This Order shall be effective ten (10) days after it is signed by the Branch Chief in EPA's Superfund Division. All times for performance of ordered activities shall be calculated from this Effective Date unless otherwise stated.

XVII. OPPORTUNITY TO CONFER

85. Within ten (10) days after receipt of this Order, Respondents may request a conference regarding the provisions of this Order. EPA shall deem a failure to request a conference as a waiver of the opportunity to confer prior to the Effective Date.

86. If requested, the conference shall occur prior to the Effective Date provided in Section XVI, unless the Effective Date and conference date are extended by mutual agreement of the Parties, at EPA's Regional Office at 75 Hawthorne Street, San Francisco, California. The conference shall be with EPA's Superfund Division Branch Chief, or whomever the Branch Chief may designate.

87. At any conference held pursuant to this Section, Respondents may appear in person, or be represented by an attorney or other representatives. The purpose and scope of any such conference held pursuant to this Order shall be limited to issues involving the actions required by this Order and the extent to which Respondents intend to comply with this Order. If a conference

is held, Respondents may present any evidence, arguments or comments regarding this Order, its applicability, any factual determinations on which the Order is based, the appropriateness of any action that the Respondents are ordered to take, or any other relevant and material issue. Any such evidence, arguments or comments should be reduced to writing and submitted to EPA within three (3) days following the conference. The conference is not an evidentiary hearing, and does not constitute a proceeding to challenge this Order. It does not give Respondents a right to seek review of this Order or to seek resolution of potential liability, and EPA will make no official record of the conference. If Respondents do not request a conference, any evidence, arguments, or comments may be submitted in writing within five (5) days following the Effective Date of this Order. Any such writing should be directed to the following address:

Bethany A. Dreyfus
Environmental Protection Agency
75 Hawthorne Street, ORC-3
San Francisco, CA 94105
(415) 972-3886

88. Requests for a conference may be made by telephone followed by written confirmation mailed that day to EPA's RPM.

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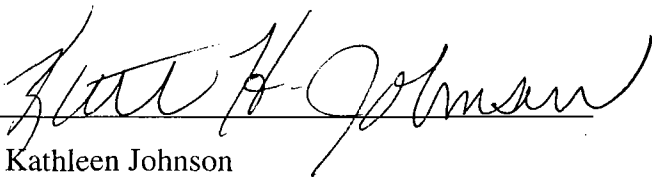
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XVIII. NOTICE OF COMPLETION OF WORK

89. When EPA determines that all Work has been fully performed in accordance with this Order, with the exception of any continuing obligations required by this Order (such as the retention of records), EPA will provide written notice to Respondents. If EPA determines that any such Work has not been completed in accordance with this Order, EPA will notify Respondents, provide a list of the deficiencies, and require that Respondents modify the RI/FS Work Plans as appropriate to correct such deficiencies, in accordance with Paragraph 49. Failure by Respondents to implement the approved modified RI/FS Work Plans shall be a violation of this Order.

So Ordered, this 19th day of June, 2007.

By: 
Kathleen Johnson

Federal Facilities Branch Chief, Superfund Division
U.S. Environmental Protection Agency, Region IX

1 ATTACHMENT 1

2 STATEMENT OF WORK

3 FOCUSED REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

4 Walker Power Systems, *1301 East Jackson Street*

5 PHOENIX, AZ

6
7
8 1.0 INTRODUCTION

9 This Statement of Work (SOW) outlines the work to be performed by Tiernay Properties,
10 Inc., Union Pacific Railroad Company, and Walker Power Systems, Inc. (collectively,
11 "Respondents") at the Walker Power Systems Site ("Site") located at 1301 East Jackson Street,
12 Phoenix, Arizona, pursuant to the Unilateral Administrative Order ("Order") with the United
13 States Environmental Protection Agency (EPA), issued under the Comprehensive Environmental
14 Response, Compensation, and Liability Act (CERCLA). This work will be referred to as a
15 Focused Remedial Investigation and Feasibility Study ("Focused RI/FS"). The Focused RI/FS
16 will be conducted to determine if the Site is or has been a source to groundwater contamination
17 associated with the Motorola 52nd Street Superfund Site ("52nd Street Site") contaminants of
18 potential concern (COPCs) (see Attachment A) and to ensure steps are taken to mitigate any
19 source(s) remaining at the Site.
20
21

22 The Focused RI/FS SOW general requirements are provided in Section 2.0 (WORK TO
23 BE CONDUCTED), and the specific work to be conducted is summarized below:

- 24 • The Respondents will first conduct a scoping exercise to identify potential COPC
25 sources at the Site, and produce a Work Plan for the Focused RI/FS. (Section 3.0
26
27
28

1 SCOPING PHASE)

- 2 • The Respondents will next identify and characterize the nature and extent of COPC
3 sources in the soil and, if necessary, in groundwater at the Site according to the Work
4 Plan. If the results of the initial site characterization indicate sources of COPCs in the
5 soils and/or groundwater, the Respondents will assess the risks of the identified
6 contamination to human health and the environment. (Section 4.0 REMEDIAL
7 INVESTIGATION)
8
9 • Finally, if EPA determines that the risks at the Site are unacceptable, the Respondents
10 will be required to develop and evaluate remedial alternatives that would mitigate the
11 risks. (Section 5.0 FEASIBILITY STUDY)
12

13 2.0 WORK TO BE CONDUCTED

14 The Respondents will conduct this Focused RI/FS and will produce deliverables to EPA
15 for review and approval that are in accordance with the Order, this SOW, "Guidance for
16 Conducting Remedial Investigations and Feasibility Studies Under CERCLA, U.S. EPA, Office
17 of Emergency and Remedial Response, October 1988" ("RI/FS Guidance"), "Presumptive
18 Remedies: Site Characterization and Technology Selection for CERCLA Sites with Volatile
19 Organic Compounds in Soils, 1993, and any other guidance documents that are relevant to
20 conducting an RI/FS. A summary of deliverables is provided in Attachment B and selected
21 guidance and reference documents are included in Attachment C. The RI/FS Guidance describes
22 the report format and the required report content; relevant sections of the guidance are noted
23 throughout this SOW in parentheses.
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26 The Respondents will furnish all necessary personnel, materials, and services needed, or
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1 incidental to, performing the Focused RI/FS, except as otherwise specified in the Order. All
2 work performed under this SOW shall be under the direction and supervision of qualified
3 personnel. All technical reports and other deliverables shall be prepared under the direction and
4 supervision of an Arizona Professional Engineer or Registered Geologist.

5 The RI and FS are interactive and may be conducted concurrently so that the data
6 collected in the RI influences the development of remedial alternatives in the FS, which in turn
7 affects the data needs and the scope of treatability studies, if they are necessary. In addition, EPA
8 encourages presumptive remedies for sites with VOCs in soil, which will streamline the FS
9 process towards remedy selection. The Final Focused RI/FS Report, as adopted by EPA, forms
10 the basis for the selection of the Site remedy and will provide the information necessary to
11 support the development of additional Records of Decision for the 52nd Street Site. The remedial
12 action alternative selected by EPA will meet the cleanup standards specified in CERCLA Section
13 121.

14 As specified in CERCLA Section 104(a)(1), EPA will provide oversight of the activities
15 conducted by the Respondents throughout the Focused RI/FS, and the Respondents will support
16 EPA's implementation of oversight activities. The Respondents shall produce Monthly and
17 Weekly Progress Reports according to the requirements in the Order. The following sections
18 describe the specific deliverables and requirements for the Focused RI/FS.

19 3.0 SCOPING PHASE (RI/FS Guidance, Chapter 2)

20 When scoping the specific aspects of a project, the Respondents will discuss with EPA all
21 project planning decisions and special concerns associated with the Site. The following activities
22 will be performed by the Respondents as a function of the scoping process:

1 3.1 Site Research (2.2)

2 The Respondents have conducted historical research of potential COPC use and disposal
3 at the Site, and submitted draft (November 23, 2004) and revised draft (July 13, 2005) Research
4 Reports summarizing the results to EPA. The Research Reports were prepared by W.L.
5 Bouchard & Associates, Inc. on behalf of Respondent Tiernay Properties, Inc. EPA provided
6 comments to the July 13 Report on October 12, 2005, and Tiernay Properties provided a response
7 on March 27, 2006. The Respondents shall submit a final Research Report according to EPA
8 comments and responses within twenty-one (21) days of the Effective Date of the Order. This
9 information will be utilized to better scope the project and will guide the development of the
10 subsequent Work Plans for additional data collection necessary to characterize the Site, better
11 define potential applicable or relevant and appropriate requirements (ARARs), and narrow the
12 range of preliminarily identified remedial alternatives.
13

14
15 The Respondents shall also conduct a Site visit during the project scoping phase to assist
16 in developing a conceptual understanding of sources and areas of COPC contamination as well as
17 potential exposure pathways and receptors at the Site. The Respondents should observe the
18 area's physiography, hydrology, geology, and demographics, as well as natural resource,
19 ecological and cultural features.
20

21 3.2 Project Planning (2.2)

22 The Respondents will plan the specific project scope after the Research Report is
23 finalized. Project planning activities include those tasks described below such as identifying data
24 needs, developing a work plan, designing a data collection program and identifying health and
25 safety protocols. The Respondents will confer with EPA regarding activities described in the
26

subsections below and before the drafting of the scoping deliverables.

3.2.1 Refine and Document Preliminary Remedial Action Objectives and Alternatives (2.2.3)

The Respondent shall develop preliminary remedial action objectives (RAOs) for each potentially contaminated medium and identify a preliminary range of remedial action alternatives and associated technologies for protecting human health and the environment. Respondents will document the preliminary RAOs and alternatives in the Focused Remedial Investigation/Feasibility Study Work Plan described in Section 3.3.1.

The RAOs should present potential exposure route(s) and receptor(s) and an acceptable contaminant level or range of levels for each potential exposure route. The RAOs should be specific as possible, but not so specific that the range of potential alternatives is limited. These RAOs are preliminary objectives, and are not final remediation goals, levels or standards. RAOs are revised throughout the Focused RI/FS process, and are typically finalized and documented in the Record of Decision (ROD). The RAOs are for the Site source areas and do not need to include RAOs for addressing the regional groundwater for the Motorola 52nd Street Superfund Site OU3 study area. Preliminary RAOs can be either ARARs or other Federal and State environmental laws or risk-based concentrations. Examples of Federal and State site characterization screening levels and remedial action levels for various environmental media are provided in Attachment A for reference and guidance in refining the investigation screening levels and RAOs for the Site.

The Respondents will also include objectives for the use of institutional controls. The Respondents will then identify a preliminary range of broadly defined potential remedial action alternatives, associated technologies, and institutional controls, if necessary. The range of

1 potential alternatives should encompass where appropriate, alternatives in which treatment
2 significantly reduces the toxicity, mobility, or volume of the waste; alternatives that involve
3 containment with little or no treatment; and a no-action alternative. The Respondents should
4 consider all presumptive site characterization and remedy selection guidance available for sites
5 contaminated with COPCs.

6 3.2.2 Document the Need for Treatability Studies (2.2.4)

7 If remedial actions involving treatment for COPCs have been identified by the
8 Respondents or EPA, treatability studies will be required except where the Respondents can
9 demonstrate to EPA's satisfaction that they are not needed. Where treatability studies are needed,
10 plans for initial treatability testing activities (such as research and study design) shall be
11 submitted in a Technical Memorandum.

12 3.2.3 Begin Preliminary Identification of Potential ARARs (2.2.5)

13 The Respondents will conduct a preliminary identification of potential state and federal
14 ARARs (chemical-specific, location-specific and action-specific) to assist in the refinement of
15 RAOs, and the initial identification of remedial alternatives and ARARs associated with
16 particular actions. ARAR identification will continue as Site conditions, contaminants, and
17 RAOs are better defined. Respondents will indicate the initial results of this review in the
18 Focused RI/FS Work Plan, and continue to revise this review in deliverables throughout the
19 Focused RI/FS process.

20 3.3 Planning Deliverables (2.3)

21 At the conclusion of the project planning phase, the Respondents will submit a Focused
22 RI/FS Work Plan which includes a sampling and analysis plan and health and safety plan. These

1 planning documents must be approved by EPA prior to the initiation of field activities. These
2 deliverables are described in detail in the following subsections.

3 3.3.1 Focused RI/FS Work Plan (2.3.1)

4 Respondents will submit to EPA a Draft Focused Remedial Investigation/Feasibility
5 Study Work Plan ("WP") within thirty (30) days of EPA approval of the Research Report. The
6 WP will document the decisions and evaluations completed during the scoping process. The RI
7 and FS activities that the WP shall address are described in more detail in Sections 4.0 and 5.0.
8 The WP should be developed in conjunction with the sampling and analysis plan and the health
9 and safety plan, although each plan may be delivered under separate cover. The WP will include
10 a statement of the problem(s) and potential problem(s) posed by the Site and the objectives of the
11 Focused RI/FS, a comprehensive description of the work to be performed to meet those
12 objectives, including the methodologies to be utilized and the rationale for performing the
13 required activities, as well as a corresponding schedule for completion. Twenty-one (21) days
14 following comment by EPA, the Respondents will submit a Final WP, which satisfactorily
15 address EPA's comments.
16

17 The following Site data previously collected and submitted to EPA by Respondents will
18 be included in the WP: a background summary setting forth the description of the Site, including
19 the geographic location, and to the extent possible, a description of the Site physiography,
20 hydrology, geology, demographics, ecological, cultural and natural resource features; a synopsis
21 of the Site history and a description of previous responses that have been conducted at the Site by
22 local, state, federal, or private parties; and a summary of the existing data in terms of physical
23 and chemical characteristics of the contaminants identified, and their distribution among the
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1 environmental media at the Site. In addition, the Respondents will include in the WP a
2 description of the Site management strategy discussed with EPA during scoping, a preliminary
3 identification of remedial alternatives, data needs for evaluation of remedial alternatives, a
4 process for and manner of identifying Federal and State ARARs (chemical-specific,
5 location-specific, and action-specific), and will reflect coordination with treatability study
6 requirements, if needed.
7

8 The Respondents will present in the WP a discussion of the preliminary conceptual site
9 model. The Respondents will identify any known or suspected sources of COPC contamination,
10 types of contaminants and affected media, fate and transport of each contaminant in each
11 medium, and any known or potential human or environmental receptors. The Respondents will
12 refine the conceptual site model as new data become available and present it in the Focused
13 Remedial Investigation Report (see Section 4.3). The conceptual site model will be based on the
14 research and work previously completed in conjunction with prior investigations and
15 supplemented by new data, if any, obtained during scoping. The site model shall include detailed
16 descriptions of the configuration, operation, and historical uses of the potential source areas,
17 detailed maps depicting all existing buildings and other Site features of interest, figures, and
18 tables depicting the layout, locations, and uses of Site features, and any recommendations for
19 investigation of the areas.
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22 The Respondents will also identify the current use of the Site in accordance with EPA's
23 "Land Use in CERCLA Remedy Selection Process," OSWER Directive No. 9355.7-04, May 25,
24 1995 ("Land Use Guidance"), including the use(s) of property located over any ground water
25 plume, if applicable, and will state the basis for these determinations. Information regarding
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1 existing uses of the Site should also be gathered to assist in identifying the reasonably anticipated
2 future uses. If EPA determines it is appropriate, Respondents shall conduct a reuse assessment in
3 accordance with the Land Use Guidance and "Reuse Assessments: A Tool to Implement the
4 Superfund Land Use Directive," OSWER 9355.7-06P, June 4, 2001, to identify the reasonably
5 anticipated future use of the Site. Respondents shall document the reuse assessment in the WP,
6 if conducted.
7

8 Finally, the major part of the WP is a detailed description of the tasks to be performed,
9 information needed for each task, information to be produced during and at the conclusion of
10 each task, and a description of the work products that will be submitted to EPA. This includes
11 the deliverables set forth in the remainder of this statement of work; a schedule for each of the
12 required activities which is consistent with the RI/FS guidance; and a project management plan,
13 including a data management plan (e.g., requirements for project management systems and
14 software, minimum data requirements, data format and backup data management), and reports,
15 meetings, and presentations to EPA at the conclusion of each major phase of the Focused RI/FS.
16 The Respondents will refer to Appendix B of the RI/FS Guidance for a comprehensive
17 description of the contents of the required WP.
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19

20 Because of the unknown nature of the Site and iterative nature of the RI/FS process,
21 additional data requirements and analyses may be identified by EPA and/or the Respondents.
22 The Respondents will submit a Technical Memorandum documenting the need for additional
23 data requirements, if any, within twenty-one (21) days of identification according to the Order.
24 Upon EPA approval, Respondents will incorporate the Technical Memorandum into the WP. The
25 Respondents is responsible for fulfilling and identifying the Data Quality Objectives (DQOs)
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described in the next section whenever such additional data and analysis needs are identified.

3.3.2 Sampling and Analysis Plan (2.3.2)

The Respondents will submit a sampling and analysis plan (SAP) within thirty (30) days of EPA Approval of the Research Report. The SAP is produced to ensure that sample collection and analytical activities are conducted in accordance with technically acceptable protocols and that the data meet DQOs. The SAP provides a mechanism for planning field activities and consists of a field sampling plan (FSP) and a quality assurance project plan (QAPP).

In the FSP, the Respondents will define in detail the sampling and data-gathering methods that will be used on the project. Respondents will include sampling objectives, sample location and frequency, sampling equipment and procedures, and sample handling and analysis. In the QAPP, Respondents will describe the project objectives and organization, functional activities, and quality assurance and quality control (QA/QC) protocols that will be used to achieve the desired DQOs. Respondents will prepare the QAPP in accordance with "Guidance for Data Quality Objectives (DQOs) Process (QA/G-4)" (EPA/600/R-96/055, August 2000), "EPA Requirements for Quality Assurance Project Plans (QA/R-5)" (EPA/240/B-01/003, March 2001), and "Guidance for Quality Assurance Project Plans (QA/G-5)" (EPA/240/R-02/009, December 2002). In addition, Respondents will address in the QAPP sampling procedures, sample custody, analytical procedures, and data reduction, validation, reporting and personnel qualifications.

The Respondents will demonstrate to EPA's satisfaction that each laboratory it may use is qualified to conduct the proposed work. The Respondents will only use laboratories that have a documented Quality Assurance Program that complies with EPA and State requirements. The

laboratory QA program must be submitted to EPA. This includes use of methods and analytical protocols for the COPCs in the media of interest within detection and quantification limits consistent with both QA/QC procedures and DQOs approved in the QAPP for the Site by EPA. EPA may require that the Respondents submit detailed information to demonstrate that the laboratory is qualified to conduct the work, including information on personnel qualifications, equipment and material specifications. The Respondents will provide assurances that EPA has access to laboratory personnel, equipment and records, sample collection, transportation and analysis. Finally, laboratories must provide data according to "Laboratory Documentation Requirements for Data Validation Packages", July 1997 (EPA 9QA-07-97) or other equivalent documentation as determined by EPA.

3.3.3 Site Health and Safety Plan (2.3.3)

The Respondents will submit a health and safety plan (HASP) within thirty (30) days of EPA Approval of the Research Report, prepared in conformance with the health and safety program of the Respondents, and in compliance with Occupational Safety and Health Administration (OSHA) regulations and protocols. The HASP will include the 11 elements described in the RI/FS Guidance, such as a health and safety risk analysis, a description of monitoring and personnel protective equipment, medical monitoring, and site control. It should be noted that EPA does not "approve" the HASP, but rather EPA reviews it to ensure that all necessary elements are included, and that the plan provides for the protection of human health and the environment.

3.4 Community Involvement

The development and implementation of community involvement activities for the

1 Focused RI/FS are the responsibility of EPA. The critical community involvement planning
2 steps performed by EPA include conducting community interviews and updating the community
3 involvement plan (CIP). Although implementation of the CIP is the responsibility of EPA, the
4 Respondents may be required to assist by providing information regarding the Site's history,
5 participating in public meetings, or by preparing fact sheets for distribution to the general public.
6
7 The extent of Respondents' involvement in community involvement activities is left to the
8 discretion of EPA. Community involvement activities conducted by Respondents will be subject
9 to oversight by EPA.

10 4.0 REMEDIAL INVESTIGATION (RI/FS Guidance, Chapter 3)

11 During this phase of the Focused RI/FS, the Respondents will begin to implement the
12 approved WP and SAP. The RI activities will include performance of the field activities
13 described in the subsections below including preparation and submission of a Focused Remedial
14 Investigation Report (FRIR) (see Section 4.3). The overall objective of this phase is to collect
15 data to describe the COPC source areas at the Site that may pose a threat to human health or the
16 environment. This is accomplished by first determining the physiography, geology, and
17 hydrology at the Site. The Respondents will identify the Site sources of COPC contamination
18 and define the nature, extent, and volume of the sources of contamination, including their
19 physical and chemical constituents as well as their concentrations at incremental locations to
20 background in the affected media. The Respondents will also investigate the extent of migration
21 of the contamination, including surface and subsurface pathways of migration, as well as its
22 volume and any changes in its physical or chemical characteristics, to provide for a
23 comprehensive understanding of the nature and extent of contamination at the Site. Respondents
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1 shall use this information to determine and project contaminant fate and transport for the Site.
2 Respondents will then conduct a focused risk assessment considering the chemical
3 concentrations detected and/or projected in the subsurface.

4 The Respondents will collect and analyze field data to provide the information required to
5 accomplish the objectives of the study. In view of the unknown Site conditions, activities are
6 often iterative, and to satisfy the objectives of the Focused RI/FS it may be necessary for the
7 Respondents to supplement the work specified in the initial WP. As described in Section 3.3.1,
8 this may be done through submission of Technical Memorandums either initiated by the
9 Respondents or requested by EPA.

11 4.1 Field Investigation (3.2)

12 The field investigation includes the gathering of data to define Site physical and
13 biological characteristics, sources of contamination, and the nature and extent of contamination
14 at the Site. The Respondents will perform these activities in accordance with the WP, SAP, and
15 HASP. The Respondents will notify EPA with a Notification of Initiation of Field Work (FW) at
16 least fifteen (15) days prior to initiating any physical work in the field. The Notification will
17 include the planned dates for field activities so that EPA may adequately schedule oversight
18 tasks. The Respondents will notify EPA in writing within five (5) days of completion of field
19 work activities, with a Notification of Completion of Field Work. Upon submission of the
20 Notification of Field Work, Respondents will provide Weekly Progress Reports according to the
21 requirements in the Order. Weekly Progress Reports may be discontinued upon Notification of
22 Completion of Field Work (see Section 4.1).
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4.1.1 Field Support Activities (3.2.1)

The Respondent may initiate some types of field support activities prior to initiation of physical work in the field. Field support activities may include obtaining access to the Site, scheduling, and procuring equipment, office space, laboratory services, and/or contractors. These activities may occur prior to the approval of the WP as well as after initiation of physical work according to the schedule in the WP. Physical field support type work activities associated with sampling, such as field lay out of the sampling grid, initiating sampling, installation and calibration of equipment, initiation of analysis, etc., shall not occur until EPA approval of the WP. Respondents will document these types of activities in the Monthly or Weekly progress reports, as appropriate, according to the requirements in the Order.

4.1.2 Physical and Biological Characteristics (3.2.2)

The Respondents will collect data on the physical and biological characteristics of the Site and surrounding areas including the physiography, geology, and hydrology, and specific physical characteristics identified in the WP. The Respondents will ascertain this information through a combination of physical measurements, observations, and sampling efforts and the Respondents will utilize the information to define potential transport pathways and human and ecological receptor populations. In defining the Site's physical characteristics, the Respondents will also obtain sufficient engineering data for the projection of contaminant fate and transport, and development and screening of remedial action alternatives, including information to assess treatment technologies.

4.1.3 Sources of Contamination (3.2.3)

The Respondents will locate each source of COPC contamination. For each location, the

1 areal extent and depth of contamination will be determined by sampling at incremental depths on
2 a sampling grid, or appropriately targeted locations based on the Conceptual Site Model (CSM)
3 developed in the WP, and refined throughout the RI. Respondents will determine the physical
4 characteristics and chemical constituents and their concentrations for all known and discovered
5 sources of COPC contamination. The Respondent will conduct sufficient sampling to define the
6 boundaries of the contaminant sources to the level established in the QAPP and DQOs.
7

8 In defining the sources of COPC contamination, Respondents will analyze the potential
9 for contaminant release (e.g., long term leaching from soil), contaminant mobility and
10 persistence, and characteristics important for evaluating remedial actions, including information
11 to assess treatment technologies.
12

13 4.1.4 Nature and Extent of Contamination (3.2.4)

14 As a final step during the field investigation, the Respondents will gather information to
15 be able to describe the nature and extent of COPC contamination in the Focused RI Report. To
16 describe the nature and extent of Site contamination, the Respondents will utilize the information
17 on physical and biological characteristics and sources of COPC contamination to give a
18 preliminary estimate of the contaminants that may have migrated. The Respondents will then
19 implement an iterative monitoring program and any study program identified in the WP or SAP
20 such that by using analytical techniques sufficient to detect and quantify the concentration of
21 contaminants, the migration of contaminants through the various media at the Site can be
22 determined.
23

24 In addition, the Respondents will gather data for calculations of contaminant fate and
25 transport. This process is continued until the area and depth of contamination are known to the
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1 level of contamination established in the QAPP and DQOs. The Respondents will use the
2 information on the nature and extent of contamination to determine the level of risk presented by
3 the Site, and determine aspects of the appropriate remedial action alternatives to be evaluated.

4 4.2 Data Analyses/Evaluate Site Characteristics (3.4.1)

5 The Respondents will analyze and evaluate the data in order to be able to describe in the
6 Focused RI Report: (1) Site physical and biological characteristics, (2) contaminant source
7 characteristics, (3) nature and extent of contamination (4) contaminant fate and transport, and (5)
8 risks to human health and the environment. These elements are described in the subsections
9 below:
10

11 4.2.1 Site Characteristics (3.4.1)

12 The Respondents will utilize the results of the Site physical characteristics, source
13 characteristics, and extent of contamination analyses in the analysis of contaminant fate and
14 transport. The evaluation will include the actual and potential magnitude of releases from the
15 sources, and horizontal and vertical spread of contamination as well as mobility and persistence
16 of contaminants.
17

18 Where modeling is appropriate, Respondents will identify such models to EPA in the WP
19 and if necessary, as supplemented by a Technical Memorandum. All data and programming,
20 including any proprietary programs, will be made available to EPA together with a sensitivity
21 analysis. The Respondents will agree to discuss and then collect any data gaps identified by the
22 EPA that are needed to complete the risk assessment. (See "Guidance for Data Usability in Risk
23 Assessment," OSWER Directive #9285.7-05, October 1990.)
24

25 Also, Respondents will provide in this evaluation any information relevant to Site
26

1 characteristics necessary for evaluation of the need for remedial action in the risk assessment and
2 for the development and a evaluation of remedial alternatives. Analyses of data collected for Site
3 characterization will meet the DQOs developed in the QAPP stated in the SAP (or revised during
4 the RI).

5 4.2.2 Risk Assessment (3.4.2)

6
7 Respondents will submit a Focused Risk Assessment (FRA) in the Focused RI Report
8 and evaluate baseline COPC conditions as developed through the field investigations and data
9 analysis. In the assessment, Respondents will consider both current and possible future uses of
10 the Site. The FRA will identify possible exposure pathways, evaluate contaminant fate and
11 transport, and if necessary, estimate points of exposure and characterize health risks.

12 Respondents will base exposure scenarios on land and groundwater use assumptions that will be
13 developed in collaboration with the EPA.

15 4.2.3 Data Management Procedures (3.5)

16 The Respondents will consistently document the quality and validity of field and
17 laboratory data compiled during the RI according to the procedures established in the WP. The
18 following subsections describe the data management procedures expected throughout the
19 Focused RI/FS:
20

21 4.2.3.1 Document Field Activities (3.5.1)

22 The Respondents will ensure that all information gathered during Site characterization
23 will be consistently documented and adequately recorded by the Respondents in well maintained
24 field logs and laboratory reports. The method(s) of documentation must be specified in the WP
25 and/or the SAP. Field logs must be utilized to document observations, measurements, and
26

1 significant events that have occurred during field activities. Laboratory reports must document
2 sample custody, analytical responsibility, analytical results, adherence to prescribed protocols,
3 nonconformity events, corrective measures, and/or data deficiencies. Ultimately, these documents
4 will be compiled and submitted to EPA as appendices to the Focused RI Report; however, they
5 may be requested by EPA throughout performance of the RI activities and/or in the Weekly
6 Progress Reports.
7

8 4.2.3.2 Sample Management and Tracking (3.5.2; 3.5.3)

9 The Respondents will maintain field reports, sample shipment records, analytical results,
10 and QA/QC reports to ensure that only validated analytical data are reported and utilized in the
11 development and evaluation of remedial alternatives. Analytical results developed under the WP
12 will not be included in any site characterization reports unless accompanied by or
13 cross-referenced to the corresponding QA/QC report.
14

15 In addition, the Respondents will establish a data security system to safeguard chain-of-
16 custody forms and other project records to prevent loss, damage, or alteration of project
17 documentation.
18

19 4.2.3.3 Database Management

20 If groundwater data is collected, the Respondents will maintain this data in an electronic
21 database, the Respondents will comply with the most recent Arizona Department of
22 Environmental Quality Groundwater Data Submittal Guidance Document, currently Version 3.1,
23 dated December 2003, and any additional requirements EPA deems necessary.
24

25 4.3 Focused Remedial Investigation Report (3.7.3)

26 The Respondents will submit a Draft Focused RI Report to EPA within sixty (60) days of
27
28

1 Notification of Completion of Fieldwork. In the Focused RI Report, Respondents will review and
2 summarize results of activities conducted in the previous subsections to characterize and assess
3 the risks to human health and the environment at the Site. Respondents will include an updated
4 site conceptual model and will evaluate the risks to human health and the environment through a
5 FRA. For example, the FRIR will describe and display site data documenting the location and
6 characteristics of surface and subsurface features and contamination at the Site, such as sources
7 of contamination, nature and extent of contamination and the fate and transport of contaminants.
8
9 The Respondents will refer to the RI/FS Guidance for an outline of the FRIR format and
10 contents. Twenty-one (21) days following comment by EPA, the Respondents will submit a
11 Final FRIR which satisfactorily address EPA's comments.

12 5.0 FEASIBILITY STUDY (RI/FS Guidance, Chapter 4)

13
14 If EPA determines that the results of the Focused RI Report identify risks to human health
15 and/or the environment, the Respondents will conduct an evaluation of the remedial alternatives
16 that will address those risks and complete a Focused Feasibility Study (FFS) for EPA to use in
17 determining the remedy for the Site. The following activities detail the FFS process:

18 5.1 Development and Screening of Remedial Alternatives (4.2)

19
20 The Respondents will develop and evaluate a range of appropriate waste management
21 options that at a minimum ensure protection of human health and the environment, concurrent
22 with the RI Site characterization task. This range of alternatives should include as appropriate,
23 options in which treatment is used to reduce the toxicity, mobility, or volume of wastes, but
24 varying in the types of treatment, the amount treated, and the manner in which long-term
25 residuals or untreated wastes are managed; options involving containment with little or no
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1 treatment; options involving both treatment and containment; and a no-action
2 alternative. Respondents should consider guidance related to presumptive remedies for COPCs
3 in soils. The results of this will provide a basis for completion of the next subtask.

4 5.2 Detailed Analysis of Remedial Alternatives (RI/FS Guidance, Chapter 6)

5 The Respondents will conduct a detailed analysis of the remedial alternatives screened in
6 the previous subtask. The detailed analysis will consist of an analysis of each option against the
7 set of nine evaluation criteria and a comparative analysis of all options using the same evaluation
8 criteria as a basis for comparison: (1) overall protection of human health and the environment;
9 (2) compliance with ARARS; (3) long-term effectiveness and permanence; (4) reduction of
10 toxicity, mobility, or volume; (5) short-term effectiveness; (6) implementability; (7) cost; (8)
11 state (or support agency) acceptance; and (9) community acceptance. Criteria 8 and 9 may be
12 considered after the FFS Report has been released to the general public. If any of the retained
13 remedial alternatives includes institutional controls which require state or community
14 participation to implement, monitor, or enforce, then state and community acceptance must be
15 determined prior to public release of the FFS Report. This analysis is the final task to be
16 performed by the Respondents during the FFS, and will be submitted as part of the Final FFS
17 Report.
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21 5.3 Focused Feasibility Study Report (6.5)

22 The Respondents will submit a Draft FFS Report to EPA within sixty (60) days of EPA
23 approval of the Final RI Report. This FFS Report, as ultimately adopted or amended by EPA,
24 provides a basis for remedy selection by EPA and documents the development and analysis of
25 remedial alternatives. The Respondents will refer to the RI/FS Guidance for an outline of the
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1 FFS Report format and the required report content. The Respondents will submit a Final FFS
2 Report within twenty-one (21) Days of EPA comments. Once EPA's comments are addressed by
3 the Respondents to EPA's satisfaction, the Final FFS Report may be bound with the FRIR.

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-----ATTACHMENT B-----

SUMMARY OF DELIVERABLES

SOW Section	Submittals and Deliverables	Due Date
2.0	Monthly Progress Reports	Each month after Effective Date (ED)
3.1	Final Research Report (RR)	21 days after ED
3.3.1	Draft Focused RI/FS Work Plan (WP)*	30 days after RR approval
3.3.1	Technical Memorandums (to supplement WP)	Within 21 days as identified or requested
3.3.2	Draft Sampling and Analysis Plan (SAP)*	30 days after RR approval
3.3.3	Draft Site Health and Safety Plan (HASP)*	30 days after RR approval
4.1	Notification of Initiation of Field Work (FW)	15 days in advance
4.1	Weekly Progress Reports	Each week during FW
4.1	Notification of Completion of Field Work (FW)	5 days after completion of FW
4.3	Draft Focused Remedial Investigation Report (FRIR)*	60 days after completion of FW
5.3	Draft Focused Feasibility Study Report (FFSR)*	60 days after approval of Final FRIR
3.3.1 4.3 5.3	*Final Deliverables	21 days after receipt of EPA comment

----- ATTACHMENT C-----

REFERENCES

The following list, although not comprehensive, comprises many of the regulations and guidance documents that apply to the RI/FS process:

"The National Oil and Hazardous Substances Pollution Contingency Plan" Final Rule, Federal Register 40 CFR Part 300, March 8, 1990.

"Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA," U.S. EPA, Office of Emergency and Remedial Response, Interim Final, OSWER Directive No. 9355.3-01, EPA-540-G-89-004, October 1988.

"Interim Guidance on Potentially Responsible Party Participation in Remedial Investigation and Feasibility Studies," U.S. EPA, Office of Waste Programs Enforcement, Appendix A to OSWER Directive No. 9355.3-01.

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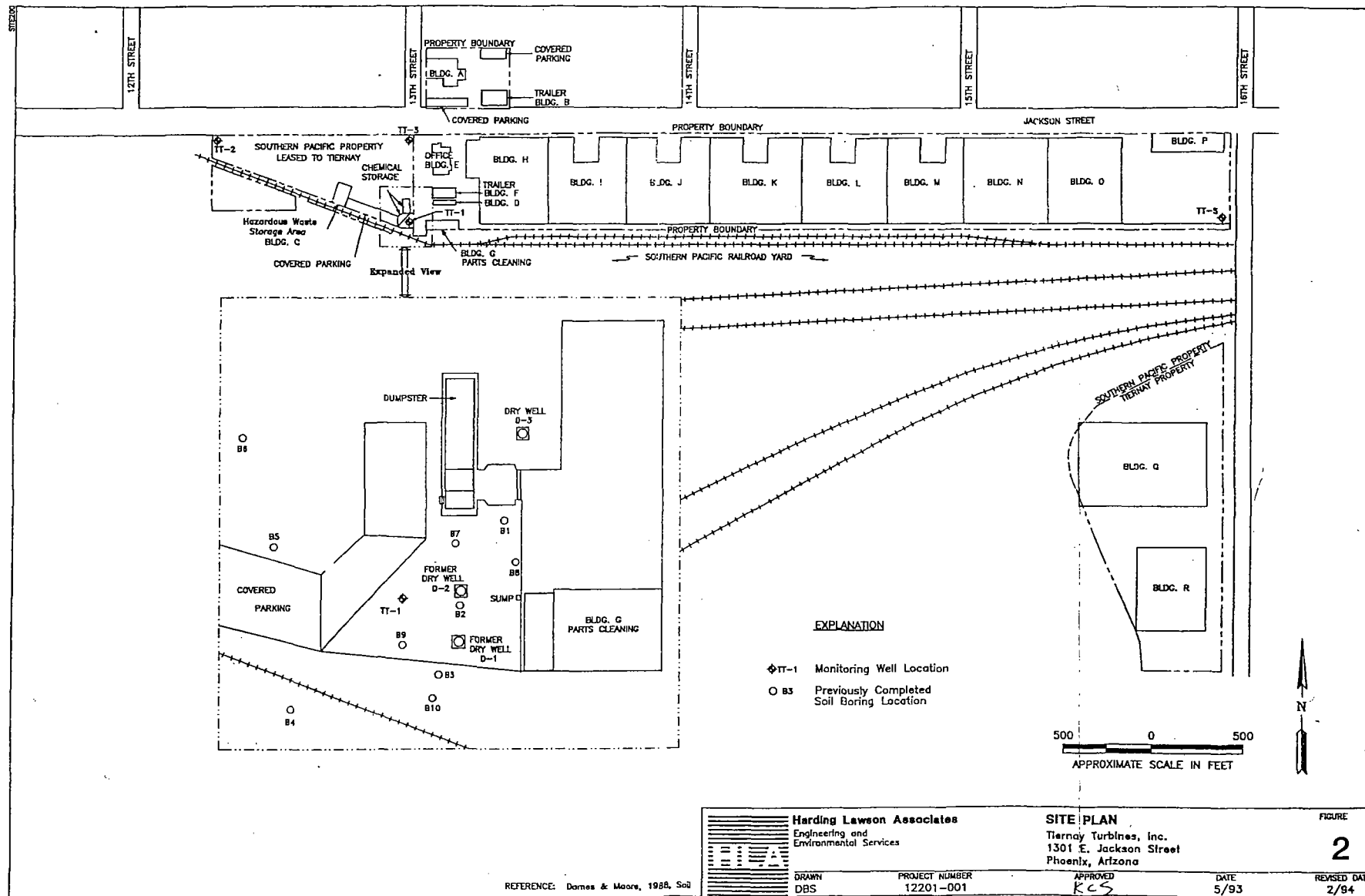
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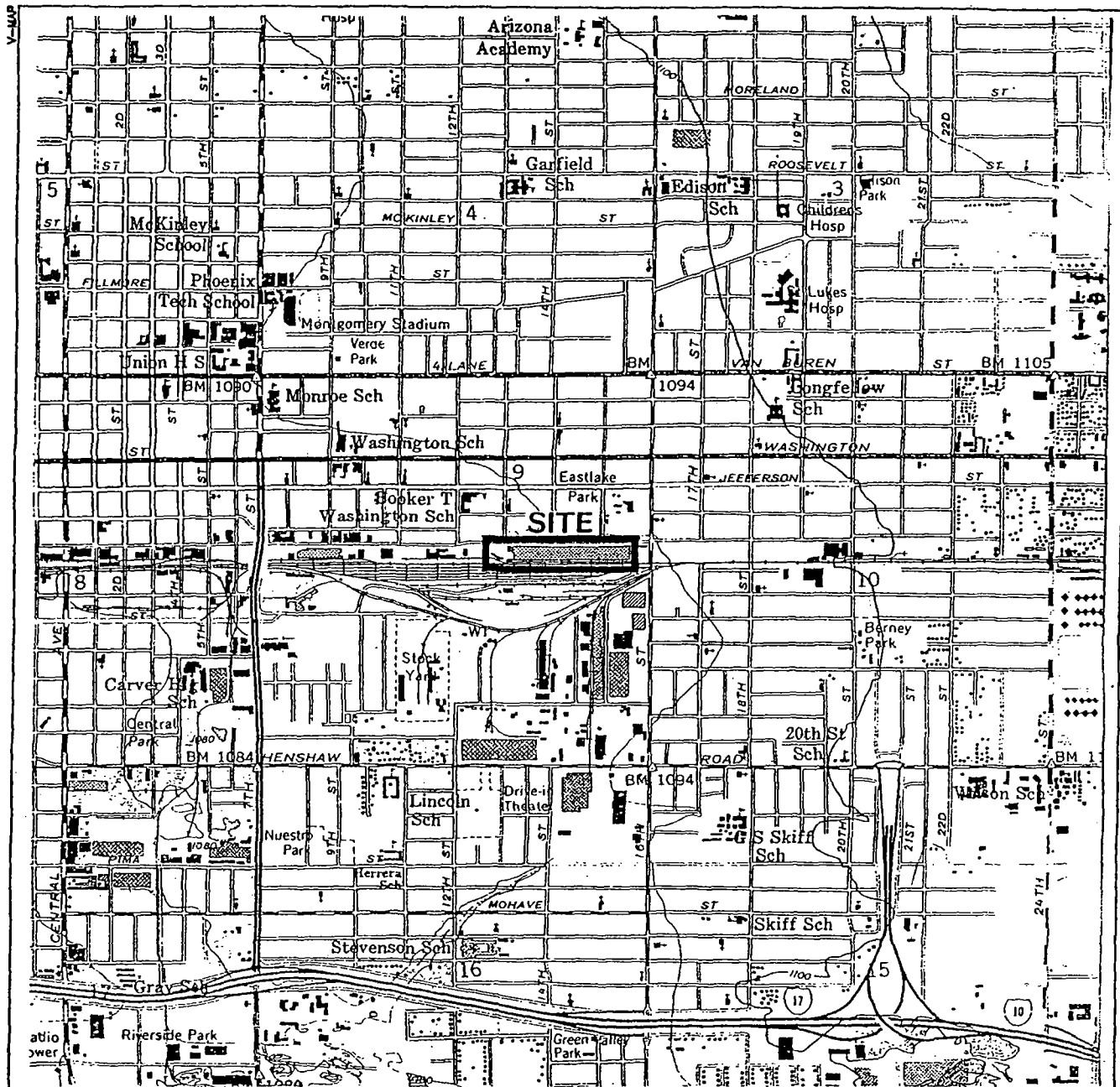
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Attachment 2

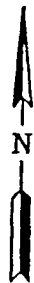


Attachment 3



REFERENCE: USGS 7.5 MINUTE PHOENIX QUADRANGLE; PHOENIX, ARIZONA (photorevised 1982)

0 2000 4000 6000
SCALE IN FEET



Harding Lawson Associates
Engineering and
Environmental Services

VICINITY MAP
Tlarnay Turbines, Inc.
1301 E. Jackson Street
Phoenix, Arizona

FIGURE

1

DRAWN
OBS

PROJECT NUMBER
12201-001

APPROVED
KCS

DATE
1/93

REVISED DATE
1/94



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

June 19, 2007

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Re: Unilateral Administrative Order
For Focused RI/FS at the Walker Power Systems Site
Motorola 52nd Street Superfund Site, Phoenix, Arizona

Dear Sirs:

Attached is a Unilateral Administrative Order ("Order") issued by the U.S. Environmental Protection Agency ("EPA") to Walker Power Systems, Inc., Tiernay Properties, Inc., and Union Pacific Railroad Company (collectively "Respondents") to conduct the focused remedial investigation/feasibility study ("RI/FS") at the Walker Power Systems, Inc. property at the Motorola 52nd Street Superfund Site in Phoenix, Arizona. This Order directs Respondents to conduct work at the property in accordance with the Scope of Work ("SOW") attached to the Order and to reimburse EPA for its oversight costs of this work.

As provided in the Order at Section VII, Respondents must inform EPA whether they will comply with this Order within 10 days of its effective date. The Order provides Respondents with the opportunity to confer with EPA regarding compliance with and implementation of the Order, pursuant to Section XVII. Should you wish to arrange such a conference with EPA, please contact Bethany Dreyfus at (415) 972-3886.

Sincerely,

A handwritten signature in black ink, appearing to read "Kathleen Johnson", written over a horizontal line.

Kathleen Johnson, Chief
Federal Facilities and Private Sites Branch
Superfund Division

Attachment

cc: Bethany Dreyfus, EPA
Janet Rosati, EPA
John Lucey, EPA